

Name _____ Period _____ Score _____

Sensory Neurons

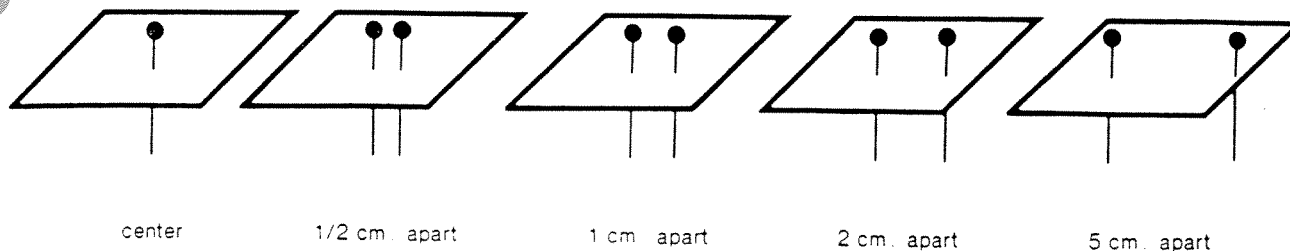
Background Information:

Certain areas of the skin contain sensory neurons that are packed together, whereas other areas have sensory neurons scattered sometimes centimeters apart. When two stimuli depolarize parts of the same neuron, the brain will interpret it as if were one stimulation.

Purpose: To determine how far apart the sensory receptors are on your skin.

Procedure:

1. Place the pins one quarter of the way through each piece of cardboard as shown below:



2. The subject should close his or her eyes. **DO NOT OPEN YOUR EYES!!!!**
3. The tester should randomly choose a pinboard to test the subject's fingertip. Press the board **GENTLY** against the subject's skin. The subject will say whether he or she feels one or two pins pushing on his/her skin. Repeat with the other boards.
4. For each correct answer, place a check in the appropriate box on the chart. Leave the box blank if the answer is incorrect.
5. Repeat the process using the 5 pinboards on other areas of the body.
6. Switch roles and repeat the experiment.
7. Compare the results of the tables.

Data Table:

	center	1/2 cm.	1 cm.	2 cm.	5 cm
palm of hand					
back of hand					
back of neck					
inside of forearm					
outside of forearm					

Analysis:

1. What is a sensory neuron?

2. Which areas of the skin did you find most sensitive?

3. When two stimuli are felt as one, explain why they are felt as two points when the stimuli are moved farther apart.

4. Explain the advantages of having some areas of the skin being more sensitive than others.
